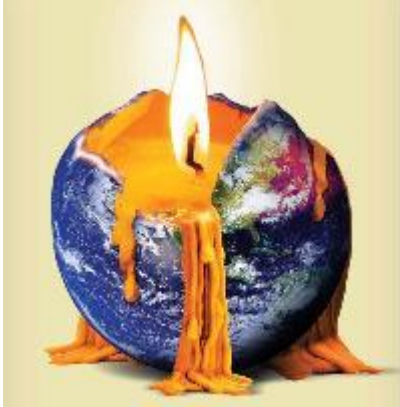


# Global Warming: Focus on Utah's Climate

The Earth is heating up, a trend that has ramifications all over the globe as well as in Utah and the West

By Judy Fahys  
The Salt Lake Tribune



ZION NATIONAL PARK - J.L. Crawford stopped regarding climate change as a debate a long time ago.

To the 92-year-old, who grew up in Oak Creek Canyon here, the proof is in the missing ice.

As a boy, he would help his great-uncle harvest ice in the winter. They dammed a creek, flooded a nearby pond and sawed out slabs from the icy surface.

They laid the blocks in layers of sawdust and stored them in a roofless shed, Crawford recalls.

"That way he could save the ice pretty well all summer" - long enough to serve summer tourists "plain old vanilla" ice cream.

Crawford doubts now that the winters are cold enough to keep up the tradition. He blames a planet that's heating up.

Global climate change.

"It scares the heck out of me," says Crawford.

"Does me, too," adds his wife, Fern, 89, who calls the changes a sign of Armageddon.

"I don't think" the climate's changing, Fern says, "I know it is."

Today, The Salt Lake Tribune begins a weeklong series of stories on the earth's changing climate and how those changes may play out in Utah in coming years.

**Sometimes confusing debate:** Fern Crawford can recall winters that filled her hometown of Panguitch with snow so high, she couldn't see over it on her way to school. And when she married J.L. in the '50s, the snow would be double the car's height on the side of the road to Bryce Canyon National Park, where he worked.

"I've seen a lot of change in climate in my life. A lot has changed," says Fern. "It's a lot different than when I grew up."

For many Utahns, climate change is not at all that clear cut. In fact, it's muddled. We have our own common-sense view, based on what we see in our own backyards. And even that's confusing.

On one hand, it's easy to discount the massive change we hear so much about. The weather bustles and shifts year to year. Droughts come and go. And air conditioners make even the hottest days of summer comfortable. Yeah, climate changes. And we cope.

On the other hand, that strange weather we've been having makes you wonder. Daily high temperatures this July tied or shattered more than 120 Utah records - an echo of scalding temperatures nationally and in Europe. Wildfires shut down an interstate and cast a smoky pall over the Utah landscape.

As we look for answers, the public debate offers little guidance. Oftentimes it sounds mean-spirited and exaggerated. On one side, "alarmists" would ruin our enviable economy and the lifestyle it supports based on unproven theories. On the other, greedy profiteers care little about the common good. Neither Congress nor the White House seems willing to step up and take the lead.

Meanwhile, scientists swamp us with uncertainties about the future. If so many smart people are studying climate change, why can't they agree what's going to happen and when? Scientists cannot seem to explain it in ways that would help us non-scientists decide for ourselves.

We are left as far apart as Grand County residents Bipin Batra and Paul Holyoak.

Holyoak, a rancher and feed-store owner, remains skeptical. He's tired of hearing that cows cause pollution, industry needs more controls and that the climate cycles he has seen his whole life have suddenly gone out of whack.

"My dad always told me it takes a fool or a newcomer to try to predict the weather here," he says. "The Earth is always revolving. I'm not going to say we're in a bad situation yet."

Batra, a Moab motel owner and self-described news junkie, describes climate change as a confounding, yet vitally pressing issue. His simple assessment: "I don't know."

"I still think there is nothing out there that's definitive one way or the other. But I think, if it's true, the implications of it are so great that we should take it seriously anyway . . . We are obliged to take it seriously, and I don't think that's happening."

**Knowns vs. Unknowns:** The Salt Lake Tribune sets out this week to find out

what we know about climate change in Utah - and what we do not.

The series begins with the assumption that the Earth is warming fast and that global warming is a reality. We'll skip the it-is/it-isn't debate here because evidence of warming is so persuasive.

The National Academies of Science and the venerable magazine Science have both surveyed hundreds of studies and concluded that global warming is under way and that humans are at least partly responsible. Their conclusions provide a reasonable starting point for a discussion in these pages.

In June, the National Research Council, a review panel of top U.S. scientists, concluded that evidence from tree rings, ice cores, retreating glaciers and many other "proxies" of temperatures of the past show the last few decades were the warmest in centuries. Though less detailed and more regional, the warming trend also is apparent in Utah.

Even the most stalwart critics now concur that the Earth is warming. In the Wall Street Journal last month, Richard S. Lindzen, the outspoken Massachusetts Institute of Technology meteorologist, noted that carbon levels are also increasing and that carbon is one likely culprit in the warming of the planet.

"It's become such a polarized issue, and it shouldn't be," said Robert Gillies, director of the Utah Climate Center. "The body of scientific opinion says it is happening. The Earth is warming, and it is not simply a natural fluctuation of climate. It is due to greenhouse gas emissions; and the amount of future climate change depends on the amount of greenhouse gases" released into the atmosphere.

Even with that much agreement, many uncertainties remain.

Do we try to stop it? Who should be responsible for curbing it? Who will be hurt most by not acting swiftly? What role should government play? Is it already too late to reverse climate's course?

**Consequences:** Computer models can only suggest the possibilities the future might hold. They cannot predict the future.

No one can say how drought may affect the ability of Latin America to provide fruits and vegetables to our local supermarkets. No one can say how extreme storms might disrupt the consumer-goods markets of Asia, which provide clothing, household items and electronics to our big discount stores. No one can say if the warming will fuel even more disease in Africa and wipe out its governance.

In Utah, many of the same types of questions are being raised. Will we have

enough water? Will we be plagued by flooding, drought or both? Will we still find trophy trout in the Provo River, pikas, or rock rabbits, in the mountains, summers made dangerous by endless wildfires and air pollution?

"The bottom line," says Gillies, "is [that global climate] is a very complex system."

Some, like MIT meteorologist Lindzen, say it is irresponsible to try to regulate carbon or take other expensive measures to slow climate change without more and better science. But others take a different view, pointing to several new studies that suggest global warming is speeding up and may be so far advanced that nothing can be done to reverse it.

So, while David K. Curtiss, of the University of Utah's Energy & Geoscience Institute, agrees that more work needs to be done to close the gaps in scientific knowledge about climate change, he says solutions need to be explored now.

"In some respects, the train has already left the station," says Curtiss, whose department is working on a large-scale carbon capture test in the southeastern Utah desert. "We need to develop technologies that give us flexibility in our response."

Indeed, technology offered a solution for the ice cream eating visitors to Zion National Park.

"They've got all this electronic stuff now and ice plants," says J.L. Crawford, chuckling. "And we make all the ice we need in the refrigerator."

But, if climate change continues as some forecasts project, the area outside the park could be looking for new ice-cream solutions once again. Many of the shops outside Zion carry ice cream made by a company based in Florida and along coastline that climate scientists say will be swallowed up by rising seas if climate change continues.

[fahys@sltrib.com](mailto:fahys@sltrib.com)